3DFX

Voodoo Rush 3500 Graphic

USER'S GUIDE
1.0 VERSION

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Chapter 1 – Introduction

Product Overview

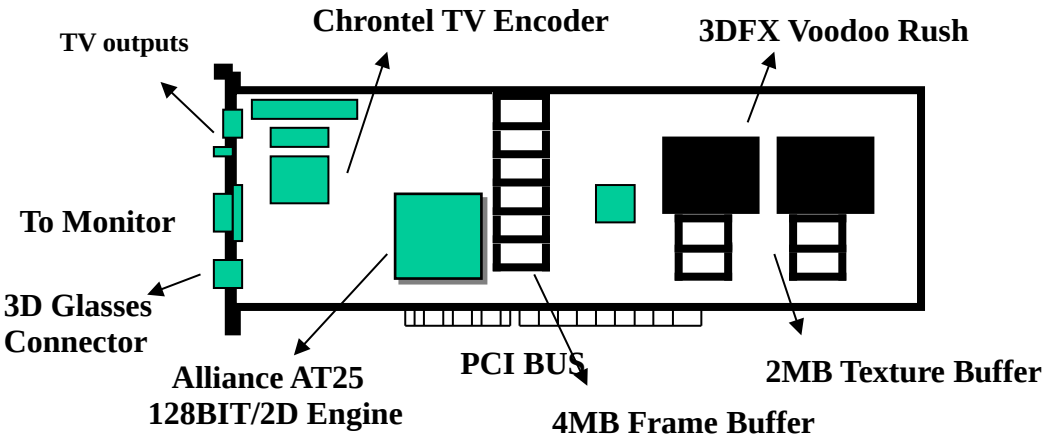
- High Performance 128-bit Alliance ProMotion AT25 2D graphics and multimedia processor
- Advanced 3Dfx Voodoo Rush 3D texture map and pixel rendering engines with hardware triangle setup
- 6MB single-cycle 30/35ns EDO DRAM
- Composite and S-video outputs allowing direct connection to NTSC or PAL TV monitors
- Special connector for cordless 3D glasses
- Chrontel's CH7002 VGA to NTSC/PAL Encoder
- 1600*1200 in 65,536 colors and 1280*1024 in true color
- Refresh rates up to 200Hz
- Microsoft Direct™ 5.0 support
- High performance drivers for Windows 95
- VBE 2.0 support for superb DOS games performance
- 35 FPS high game speed
- VESA DPMS, DDC 2B support for Plug-and-Play
- VMI connector for DVD and live video input

Resolution and refresh rates

Resolution	Colors	6MB	Refresh Rates max

640x480	256	On Board	200Hz
640x480	65k		200Hz
640x480	16M		200Hz
800x600	256	On Board	160Hz
800x600	65k		160Hz
800x600	16M		120Hz
1024x768	256	On Board	100Hz
1024x768	65k		100Hz
1024x768	16M		85Hz
1152x864	256	On Board	85Hz
1152x864	65k		75Hz
1152x864	16M		75Hz
1280x1024	256	On Board	85Hz
1280x1024	65k		75Hz
1280x1024	16M		60Hz
1600x1200	256	On Board	75Hz
1600x1200	65k		60Hz

Board's Layout



3DFX Voodoo Rush
Professional Entertainment 3D VGA

Chapter2-Hardware installation

Thank you for purchasing a 3DFX VooDoo Rush + AT25 Single board. This guide is written for those who are familiar with the installation of PC peripherals and software applications, and as a reference for experienced users. If you are new to installing PC peripherals and software applications, follow the step-by-step instructions and figures in this manual to guide you through the installation procedure.

If you are already experienced in hardware and software installation, you may only use this guide when you need a detailed explanation about specific steps in the installation procedure. If you still have questions after using this manual, you may need to consult your dealer or computer operations guide.

System Requirements

To run the 3DFX VooDoo Rush you need the following equipment:

- An IBM or fully compatible Pentium-based or similar PC, which complies with the PCI local bus specification and which has a spare PCI bus slot.
- A high-resolution analogue RGB SVGA monitor (multi-sync recommended).
- A TV screen featuring a S-Video connector.
- Windows 95 or later, or equivalent.

Before you begin

Before you start the installation procedure, please make sure that your computer meets the computer requirements previously specified. If you are not sure whether your computer meets the minimum requirements, contact your dealer before unpacking the 3DFX VooDoo Rush package.

Once you are sure your system meets the necessary requirements, prepare a clean workspace, and gather the tools you will need. For the installation of the kit components, you will need a small screwdriver and a container to hold the loose screws.

Carefully unpack the box contents. Leave the video board in its static-resistant packaging until later in the installation procedure.

This protective packaging has been specially designed to protect the card from potential damages

caused by static electricity.

Checklist

Please check that your package is complete and contains the items below. If you discover damaged or missing items, please contact your dealer.

- ✓ The 3DFX Voodoo Rush video card
- ✓ This User's Manual
- ✓ 1 CD labeled for 3DFx Voodoo Rush VGA card.

Handling the 3DFX Voodoo Rush VGA CARD

Static-sensitive electricity discharge can damage electronic components. To prevent any damage to your card, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from static discharge.

Precautions:

- Keep the board in its anti-static bag until you are ready to I Install it.
- Touch a grounded metal object before you remove the board from the anti-static bag.
- Handle the board by its edge only; do not touch the printed circuit board.
- Do not place the card on the top of your computer or any other metal surface.
- Make sure that the card is not accidentally touched by anyone else.
- Handle the card with care to avoid damage to the fragile electronic components mounted on the circuit board.

Note: The card is shipped in anti-static packaging to avoid static damage. When unpacking the card, be sure the person handling the board is static-protected.

Attention!

You may find it helpful to have to hand the user's guide of the operating system used and any other

documentation supplied with your PC and computer monitor.

Installation procedure

Switch off your computer and any hardware device such as Printer connected to your computer.

While the cables are still connected to your computer, you may want to label them in order to reconnect them properly once the Installation process is finished.

Disconnect your monitor cable from your computer. Some cables may be attached to their connectors by small screws. Make sure to unscrew any secured cables before attempting to disconnect the cable from the back of the computer.

Remove the computer's cover. You may need to refer to the documentation supplied with your computer for instructions on how to do this. Keep the screw as you will need them later to secure the card

If this is the first time you have open up your computer, take a moment to familiarise yourself with the layout of the inside of the computer.

Remove any existing graphics adapters that may be in the system or disable your built-in graphics controller. Refer to the documentation supplied with your computer for instructions on how to disable a built-in graphics controller.

Locate an empty PCI expansion slot where you wish to install your video card.
With your finger follow the expansion slot to the end closet to the outside of computer. You will find there is a metal or plastic cover on the expansion slot where the edge of the card will eventually be attached. The slot cover will be attached by at least one screw. Unscrew the expansion slot cover and place the screw and slot cover in a container so as not to lose them.

Touch the bare metal chassis of your computer with the back of your had to discharge any static that may have built up on you or your clothes.
Align the 3DFX Voodoo Rush with the slot you have chosen. Firmly press the card into the slot. You will need to use some pressure to push the card into position, but do not use excessive force. The PCI connectors should be on the bottom edge of the card that will be inserted into the PC expansion slot.

Once in the slot, secure the video card using the screws removed previously.
Replace the cover of your computer.

Connect your monitor cable to the 3DFX Voodoo Rush VGA card. All cables connected to 3DFX Voodoo Rush should be properly shielded and comply with radio frequency interface standards.

Switch on your computer and your monitor.

Attention!

For TV viewing, turn off your PC and connect an RCA / S-Video cable between the S-Video or composite output on the 3DFX Voodoo Rush VGA card and the other side connector on your TV. Then turn on the TV and select the AV channel.
The 3DFX Voodoo Rush find automatically the TV devices, no manual setting are needed.

Chapter 3 – Drivers Installation

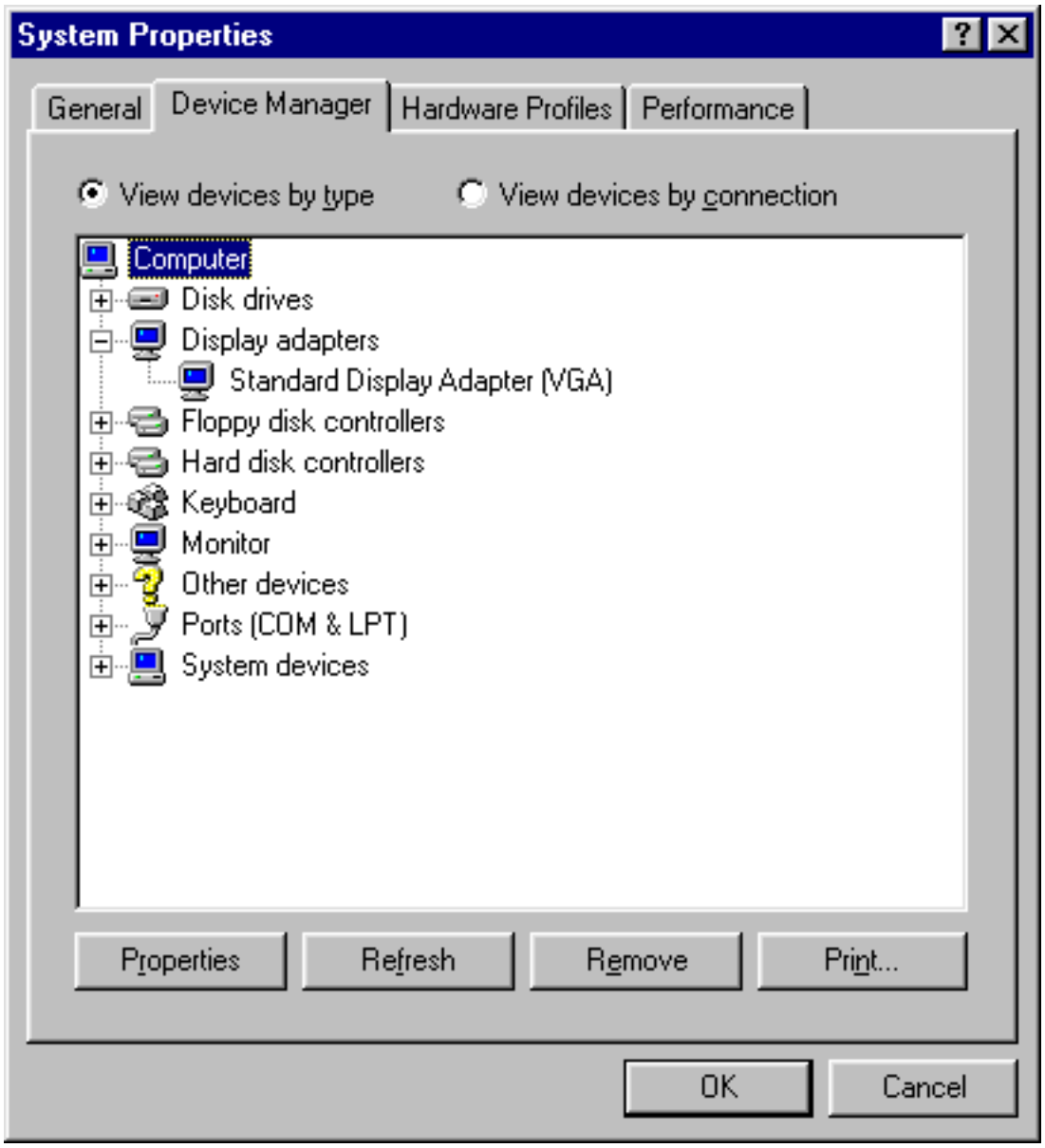
Windows 95 (Standard edition and OSR2 release)

Requirements:

- Windows 95
- PC with a Pentium or similar processor and free PCI slot
- 16MB of RAM minimum.

First Time Installation

1. Start Windows 95
2. Once Windows 95 starts you may be notified that no video device exists, click Cancel if this message appears



3. Windows 95 will detect a new VGA Compatible Display, you need to:

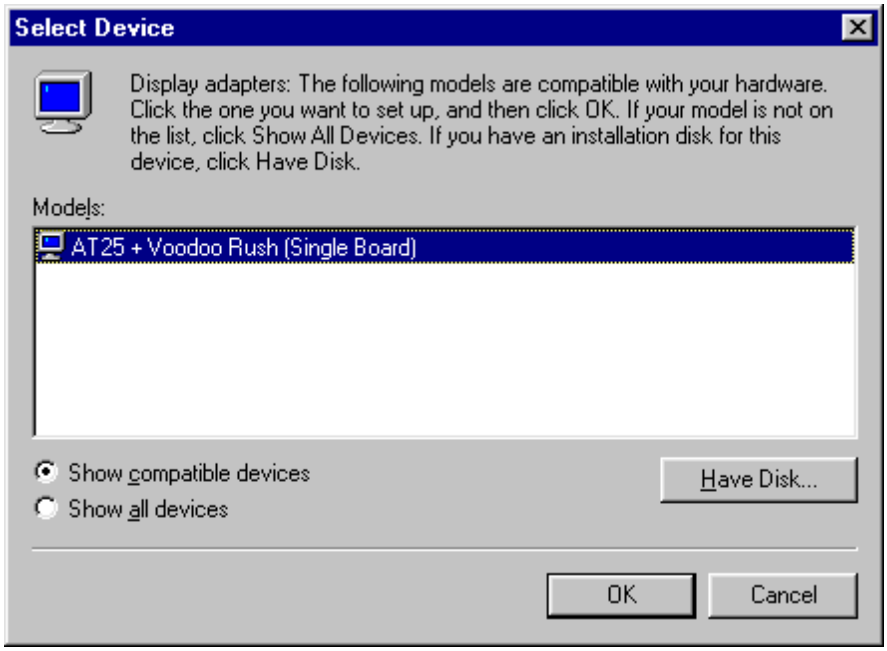
   -Windows 95 Standard Release users: Select " Use Driver from Manufacturer" and click OK

   -Windows 95 OEM SR2 users: Click the Next button on the Detection Dialog BOX

4. You may then be prompted to enter the path to the drivers. Insert the CD Drivers Title provided with your 3DFX Voodoo Rush VGA card and

   type: D:\3DFX3500\WIN95. Click OK.

5. When asked to choose a device, select "AT25 + VooDoo Rush (Single Board)"


Select Device
Display adapters: The following models are compatible with your hardware. Click the one you want to set up, and then click OK. If your model is not on the list, click Show All Devices. If you have an installation disk for this device, click Have Disk.
Models:
AT25 + Voodoo Rush (Single Board)
Show compatible devices
Show all devices
Have Disk...
OK
Cancel

6. Windows will copy the drivers. Reboot the system when prompted.
7. After reboot, verify that Windows 95 runs. If Windows 95 hangs, power the system off and verify that the 3DFX Voodoo Rush is installed correctly and is functioning.
8. Install DirectX 5.0 from CD.

Attention!

Once you have installed the correct display drivers, you have to install Microsoft Direct X 5.0 even if you had already installed it

Upgrade Existing AT25/Voodoo Rush Drivers;

1. Start Windows 95
2. Click Start, Control Panel. Double-click on Display.
3. Click the settings tab
4. Click Change Display Type
5. Under Adapter Type, click Change
6. Click Have Disk
7. Insert the CD Drivers Title
8. You will be prompted as follows:
   -Windows 95 Standard Release user: Enter the path to the drivers: D:\3DFX3500\WIN95
   -Windows 95 OEM SR2 users: Click the Next Button, no updated drivers will be found. Click on

"Other Location" then enter the path to the drivers: D:\3DFX3500\WIN95

9. When asked to choose a device, select "AT25 + VooDoo Rush (Single Board) "
10. Windows will copy the drivers. Reboot the system when prompted
11. Install DirectX 5.0 from CD

Attention!

Running 640X480, 16 Color Win95 will use SUPERVGA.DRV or VGA.DRV No Voodoo Rush features will be used. Switch to a different resolution or color depth.

Windows NT 4.0 Video Drivers Installation

1. If you are installing Windows NT4.0 for the first time, the system will detect the 3DFX VooDoo Rush as a《VGA compatible display adapter》.
2. If Windows NT4.0 is already installed, boot your system and enter Windows NT (VGA mode) from the Boot Manager. When the system boots up, the following message will appear: 《The currently selected display resolution is invalid》. Click《OK》to enter the《Display Properties》screen.
3. In the "Settings" screen, click on the "Display Type…"button.
4. From the "Display Type" screen, and in the "Adapter Type" section, click on the "Change…"button.
5. In the "Change Display" screen, click on the "Have Disk…"button.
6. Insert the CD Drivers Title and enter the path to the driver: D:\3DFX3500\NT40. Click on the "OK" button.
7. Select 《AT25 + Voodoo Rush (Single Board)》and click《OK》.
8. From "Third party Drivers", click on the :Yes" button to proceed.
9. If a message appears stating the driver is already installed on the system, and asks if you want to use the current or new drivers, be sure to select the "New" button.
10. If prompted for the driver diskette a second time, click on the "Continue" button.
11. When the message "The drivers were successfully installed" is displayed, remove the display driver diskette, then click on the "OK" button.
12. Back at the "Display Type" window, click on the "Close" button.
13. Back at the "Display Properties" window, click on the "Close" button.
14. When you see the "System Settings Change" window, asking if you wish to restart your

computer, click on the “Yes” window to reboot now.

15. When Windows NT starts (not in VGA mode), the system will inform you that a new graphics driver has been installed. When prompted, click《OK》to enter the Display Property Screen》and follow the usual procedures to select the desired video mode.(Refer to Microsoft NT User’s Guide).

Attention!

If installing Windows NT 4.0 with the 3DFX VooDoo Rush device currently installed in the system, proceed through the Windows NT installation as normal. The installation program will prompt you to choose a display mode. Choose the “Cancel” button from the “Display Settings” screen to ignore this step for now. The installation will now finish. Once Windows NT has started for the first time, proceed to follow the steps outlined above to install the driver for your 3DFX VooDoo Rush device.

Display properties (Windows 95)

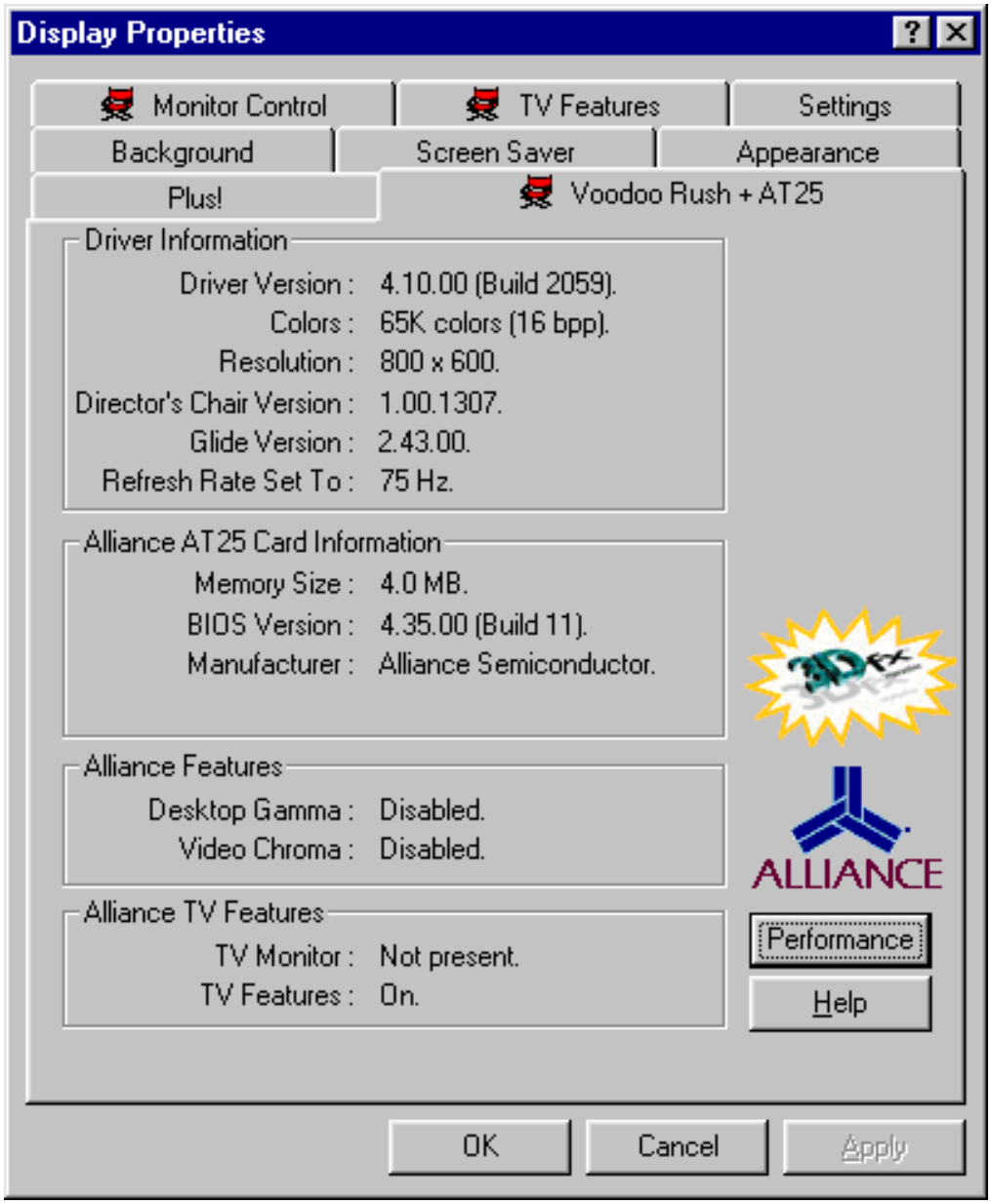
Once installed the correct drivers and reboot, the system will add three new sections to the Display Properties of the Control Panel:

- Voodoo Rush + AT25
- Monitor Control
- TV Features

Voodoo Rush + AT25

This section allows to quickly getting all the general information about the 3DFX VooDoo Rush in the

system.



Get here info about:

- Current Driver version (e.g. 4.10.00 [build 2059])
- Working resolution, colors and refresh rates
- Running Glide version (e.g. 2.43.00)
- Current BIOS version (e.g. 4.35.00 [build 11])
- Current Gamma and Chroma settings

Performance:

- Allow PCI retries

May fix sound problems when playing video clips

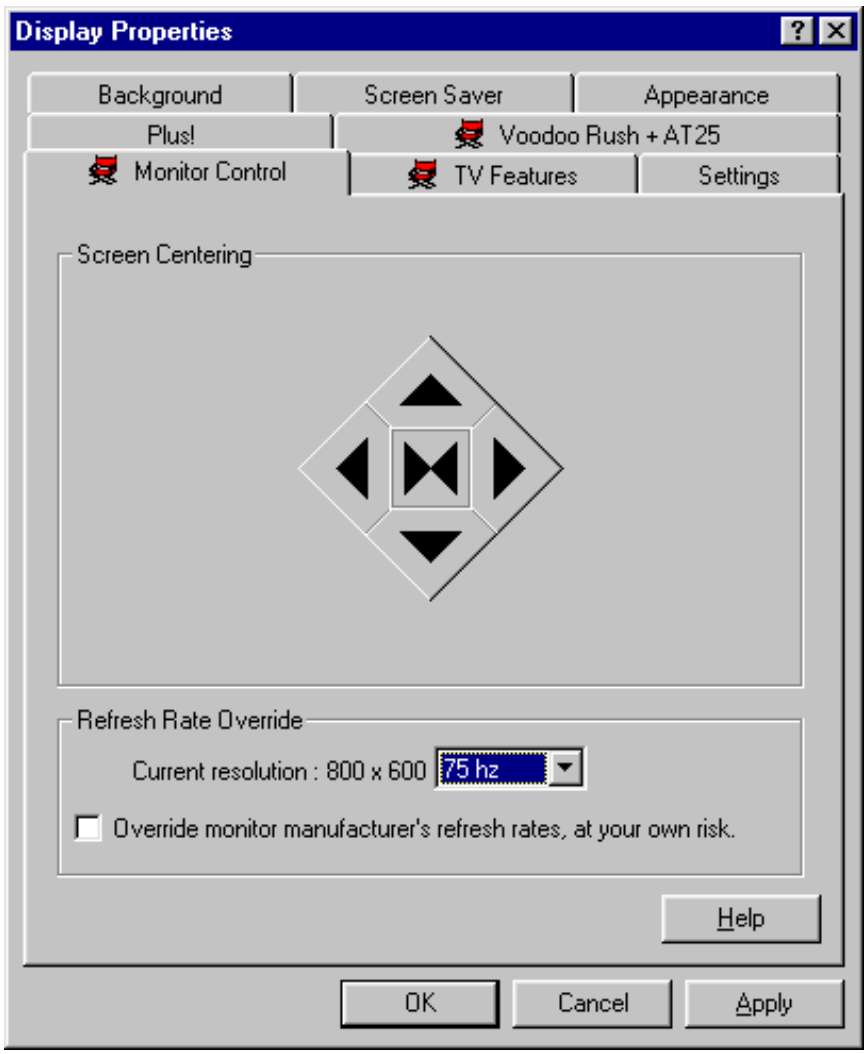
- Force all full screen 3D modes to 60Hz

  Can increase frame rates and game performances

  Note: Memory size displays 4.0MB. This value is for frame buffer memory.

Monitor Control

This section enables you to change the refresh rate value and to move the screen



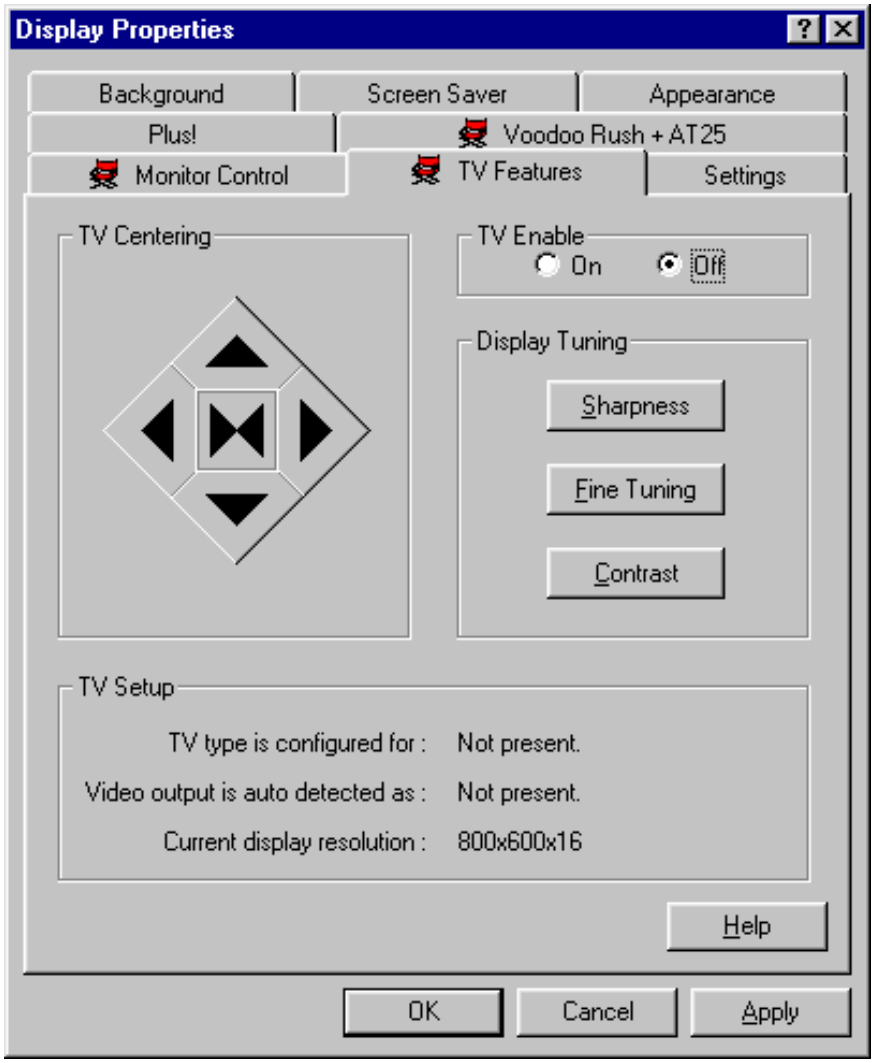
Screen centering: give the possibility to move the monitor screen area in order to better display the desktop. This would be very useful if you often change the resolution or the refresh rate.

Refresh rate override: check the current resolution and allows to change the refresh rate.

Override monitor manufacturer's refresh rates, at your own risk: the system does not check the monitor-supported refresh rates and allows you to select higher values.

TV Features

This section enables you to control the TV adjustments and to move the screen.



TV CENTERING: give the possibility to move the TV screen area in order to better display the desktop.

TV ENABLE: set to on only if you have the TV connected.

DISPLAY TUNING:

- **SHARPNESS**

  EDGE SHARPNESS BOOST: improve the edge's visualization; default is low

  ENHANCED TEXT: improve the types displaying; default is off
- **FINE TUNING**: perform small visual adjustments; default is low
- **CONTRAST**: increase or decrease the contrast; default is a bit lower than the middle of the range.

*Note: when TV is on, the monitor's screen size become a little bit smaller. To restore the original setting, set TV ENABLE to off and change the refresh rate

Attention!

Common TV usually support resolutions up to 800X600. Don't increase this value if you are using the simoultaneous viewing option, or the TV will stop working.

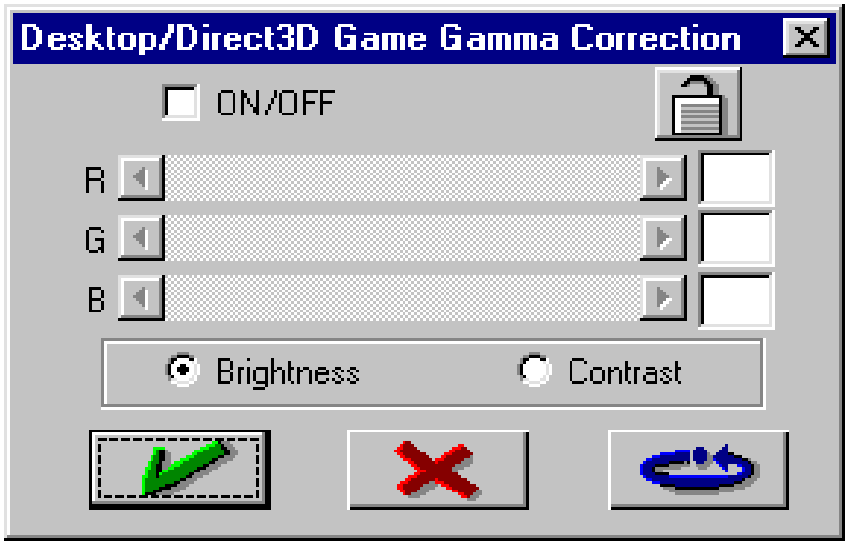
Gamma/Contrast

Gamma correction is a technique used to correct for the non-linear characteristics of display devices and the human eye.

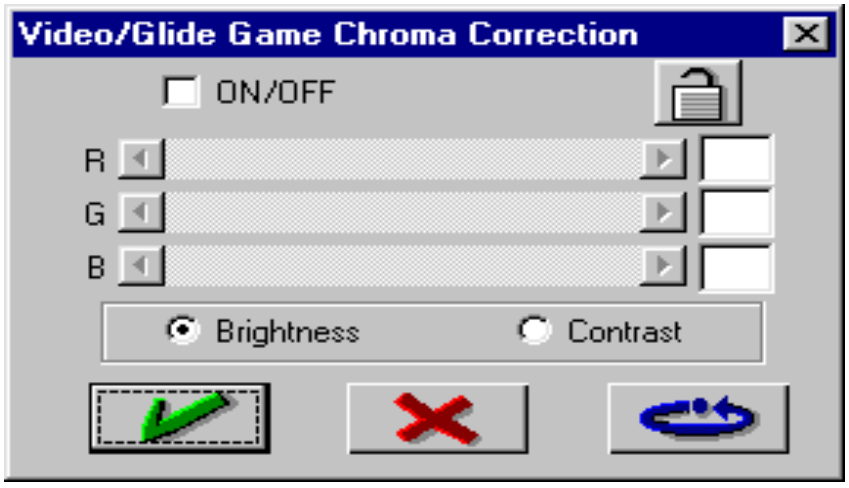
Once installed the correct drivers, in the taskbar will appear a small multi-colored icon.

This icon give the access to two options:

- **Desktop/Direct 3D Game Gamma Correction: allows to modify the Brightness and the Contrast values, when running a Direct 3D game in a window or simply for desktop. Close the padlock on the top-left to change all the three R, G, and B values simultaneously.**



- **Video/Glide Game Contrast Correction: allows to modify the Brightness and the Contrast values, when running a video in a window or a Glide game. Close the padlock on the top-left to change all the three R, G, and B values simultaneously.**



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